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INCREASED SENSITIVITY TO STREPTOMYCIN

- USSR -

by D. Z. Kagan and Yu. I. Katsef

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# INCREASED SENSITIVITY TO STREPTOMYCIN

Following is a translation of an article by D. Z. Kagan and Yu. I. Katsef (of a military hospital), in Zdravookhraneniye Belorussii (Public Health of Belorussia), Vol V, No. 1, Minsk, January 1960, page 607

Patient K., male 21 years of age, was admitted to the tuberculosis department of the hospital on 20 August 1958 with diagnosis: infiltrated tuberculosis of the lungs in stage of degeneration;

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V 0 ; TB + EV + . Upon admission complained of pains in his right side, tussis, and sweating. Had become ill in July. General debility and tussis occurred. Antibacterial therapy had not been used prior to his admission to the hospital.

Patient had a strong build and was well nourished. Temperature normal. Pulse 64. Heart was not dilated, tones were clear, arterial pressure 120/70. Lungs: blunting of pectorator tone on the right, paravertebrally, on the level of the middle of the shoulderblade; hard breathing and sonorous middle-vesicular crepitations. Roentgenoscopy of the chest on the right side in the radix area on a level with the fourth rib revealed a cavity of degeneration 4 centimeters in diameters with an infiltrated torus around it. In the lower pulmonary field, on the right, shadows of mildly outlined foci of average dimensions. Diaphragm motile. Blood: hemoglobin 94%; erythrocytes, 5 million; leukocytes 7000; eosinophils 2%, polymorphonuclear basophils 4%, polymorphonuclear neutrophils 71%, lymphocytes 19%, monocytes 4%. Erythrocyte sedimentation reaction 40 millimeters. Urine: normal. Sputum: TB 2-4 in field of vision; EV + .

Therapy prescribed: 0.5 grams of streptomycin twice a day intramuscularly, and one gram of phthivazide and 9 grams of PASK [paraaminosalicylic acid] a day. Patient's condition completely satisfactory. During first 10-day period, put on 2 kilograms in weight. Prior to 1 September inclusive, received 12 grams of streptomycin, 14 grams of phthivazide, and 113 grams of PASK. Repeated analysis of the blood revealed a drop in the number of leukocytes to 4100; erythrocyte sedimentation reaction 25mm. On 5 September the nighttime temperature began to rise. In view of the rise in temperature and the worsening of the patient's condition, on 6 September intramuscular injections of 100,000 units of penicillin, 4 times a day, were prescribed. Temperature continued to rise, reaching 39.2° on 9 September; on 9 and 10 September the temperature curve had a clearly expressed septic character. The patient

complained of a headache. Appetite and sleep satisfactory. He did not have any chills. Toward morning, in addition to having a fall in temperature, would have excessive sweating. Cutaneous integuments and visible mucous membranes of normal coloration. Pulse and breathing quickened evenings, corresponding to rise in temperature (pulse 100, breathing 24). Arterial pressure 120/75. Stethacoustic data did not change substantially. Stomach soft, liver and spleen not palpated. Physiological functions normal.

Developing leukopenia caused alarm. Blood 10 September: hemoglobin 90%; erythrocytes 4.5 million, 1. 4000; erythrocytes 0%, young 1%, boc. 20%, polymorphonuclear neutrophils 28%, lymphocytes 41%, monocytes 10%, erythrocyte sedimentation reaction 20 mm; and on 11 September: 1. 3100, erythrocyte 1%, bac. 17%, polymorphonuclear neutrophils 15%, lymphocytes 55%, monocytes 12%, erythrocyte sedimentation reaction 25 mm. Sowing of blood on bile and sugar bouillon did not produce any growth of microbe flora.

Side effects of the antibiotics were not suspected until the ninth day after the first symptoms of leukopenia and on the fifth day after the temperature had begun to rise. On 11 September the injections of penicillin and streptomycin were discontinued. Treatment with phthivazide and PASK continued in their former dosages. In order to intensify leukopoiesis, pentoxyl in dosage of 0.2 grams twice a day, and 800 milligrams of ascorbic acid a day internally were prescribed.

After the injection of antibiotics ceased, the temperature stopped at its normal figures. The headaches and sweating stopped. There was a gradual increase in the number of leukocytes and the hemogram became normal. The taking of pentoxyl stopped on 25 September. Subsequently the patients had no further catarrhal symptoms in the lungs, and the TB in the sputum disappeared. Data obtained by roentgenoscopy and roentgenography on 23 September; on the right, in the medial zone of the central area, focal shadows of weak intensity and fibrose mass. No cavity was detected. Radices on both sides concentrated. Costal-diaphragmal sinuses free. Heart and aorta normal. Patient discharged 29 October 1958 to completed satisfactory condition.

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